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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,610	01/14/2004	Koji Noguchi	09792909-5758	4808
26263	7590	05/26/2005	EXAMINER	
SONNENSCHN NATH & ROSENTHAL LLP			VU, PHU	
P.O. BOX 061080			ART UNIT	
WACKER DRIVE STATION, SEARS TOWER			PAPER NUMBER	
CHICAGO, IL 60606-1080			2871	

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/757,610	<b>Applicant(s)</b> NOGUCHI ET AL.	
	<b>Examiner</b> Phu Vu	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-2, 4 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujimori et. al US Publication No. 2002/0075441.**

Fujimori teaches a liquid crystal panel comprising:

a driving substrate (fig. 1 element 1);

pixels on a surface of the driving substrate, each of the pixels including a pixel electrode and a transistor (fig. 2a element 9) connected to the pixel electrode (fig. 2a element 2);

signal lines and scanning lines connected to the transistor (not shown by figures see column 7 lines 5-10);

an alignment film being rubbed in a substantially parallel to the signal lines (see fig. 6);

a counter substrate (fig. 2(a) element 11) provided adjacent to the alignment film (not shown see);

a liquid crystal layer provided between the driving substrate and the counter substrate (fig. 3 element 4); and

and a projection (fig. 3 element 10) in each pixel provided at a substantially central position in a direction perpendicular to the rubbing direction. Since the protrusion extends normal to the surface of which the rubbing direction extends it is inherently perpendicular. Note figures 1-6 are directed toward the same embodiment and are merely different cross sections and views.

**Regarding claim 2**, the projection in each pixel is provided at a position between the start and center in the rubbing direction, and this position is not located in the center (according to figure 3 the projection is formed in an area adjacent to element 9 which in fig 2(b) is substantially near the center in the rubbing direction).

**Regarding claim 4**, the reflective (fig. 2b element 9) and transmissive region (fig. 2b element 2b1) are in that order of the rubbing direction (see fig. 6).

**Regarding claim 9**, this claim 4 recites all the limitations of claim 9, therefore this rejection follows the rejection of claim 4.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 3 and 6-7 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimori et. al US Publication No. 2002/0075441 and further in view of Miura et. al US Patent No. 5877836.**

**Regarding claim 3,** Fujimori teaches all the limitations of claim 3 except, a pre-tilt angle of 4 to 20 degrees. Miura teaches a pretilt angle of 1-20 degrees and optimally 10-20 degrees to provide an effective optical modulation region in the display region of the liquid crystal display (see column 18 lines 19-25). The MPEP section 2411.05 [R-1] states: in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use a pretilt angle of 4-20 degrees to provide an effective optical modulation region in the display region.

**Regarding claim 6,** claim 3 discloses all the limitations of claim 6, therefore this rejection follows that of claim 3.

**Regarding claim 7,** the primary reference teaches the projection in each pixel is provided at a position between the start and center in the rubbing direction, and this position is not located in the center (according to figure 3 the projection is formed in an area adjacent to element 9 which in fig 2(b) is substantially near the center in the rubbing direction).

**Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimori as applied to claim 1 or 9 above and in further view of Kaise et. al. US Patent No. 6788372.**

**Regarding claim 5**, Fujimori discloses all the limitations of claim 5, except walls extending along borders in a direction substantially perpendicular to the rubbing direction. Kaise teaches walls (fig. 7 element 18) extending along borders in a direction of the gate line to provided to precisely adjust the gap between the substrates (see column 13 lines 7-5). This when combined with Fujimori would result in walls perpendicular to the rubbing direction as Fujimori's rubbing direction is perpendicular to the gate lines. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to form walls extending along borders in a direction of the gate line to provided to precisely adjust the gap between the substrates.

**Regarding claim 10**, Fujimori discloses all the limitations of claim 10, except walls extending along borders in a direction substantially perpendicular to the rubbing direction. Kaise teaches walls (fig. 7 element 18) extending along borders in a direction of the gate line to provided to precisely adjust the gap between the substrates (see column 13 lines 7-5). This when combined with Fujimori would result in walls perpendicular to the rubbing direction as Fujimori's rubbing direction is perpendicular to the gate lines. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to form walls extending along borders in a direction of the gate line to provided to precisely adjust the gap between the substrates.

**Claim 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimori and Miura as applied to claim 6 above and in further view of Kaise et. al. US Patent No. 6788372.**

**Regarding claim 8**, Fujimori and Miura disclose all the limitations of claim 8, except walls extending along borders in a direction substantially perpendicular to the rubbing direction. Kaise teaches walls (fig. 7 element 18) extending along borders in a direction of the gate line to provided to precisely adjust the gap between the substrates (see column 13 lines 7-5). This when combined with Fujimori would result in walls perpendicular to the rubbing direction as Fujimori's rubbing direction is perpendicular to the gate lines. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to form walls extending along borders in a direction of the gate line to provided to precisely adjust the gap between the substrates.

**Regarding claim 11**, claim 8 discloses all the limitations of claim 11, therefore, claim 11 are unpatentable for the same reasons.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu Vu whose telephone number is (571)-272-1562.


The examiner can normally be reached on 8AM-5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571)-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phu Vu  
Examiner  
AU 2871



**DUNG T. NGUYEN**  
**PRIMARY EXAMINER**